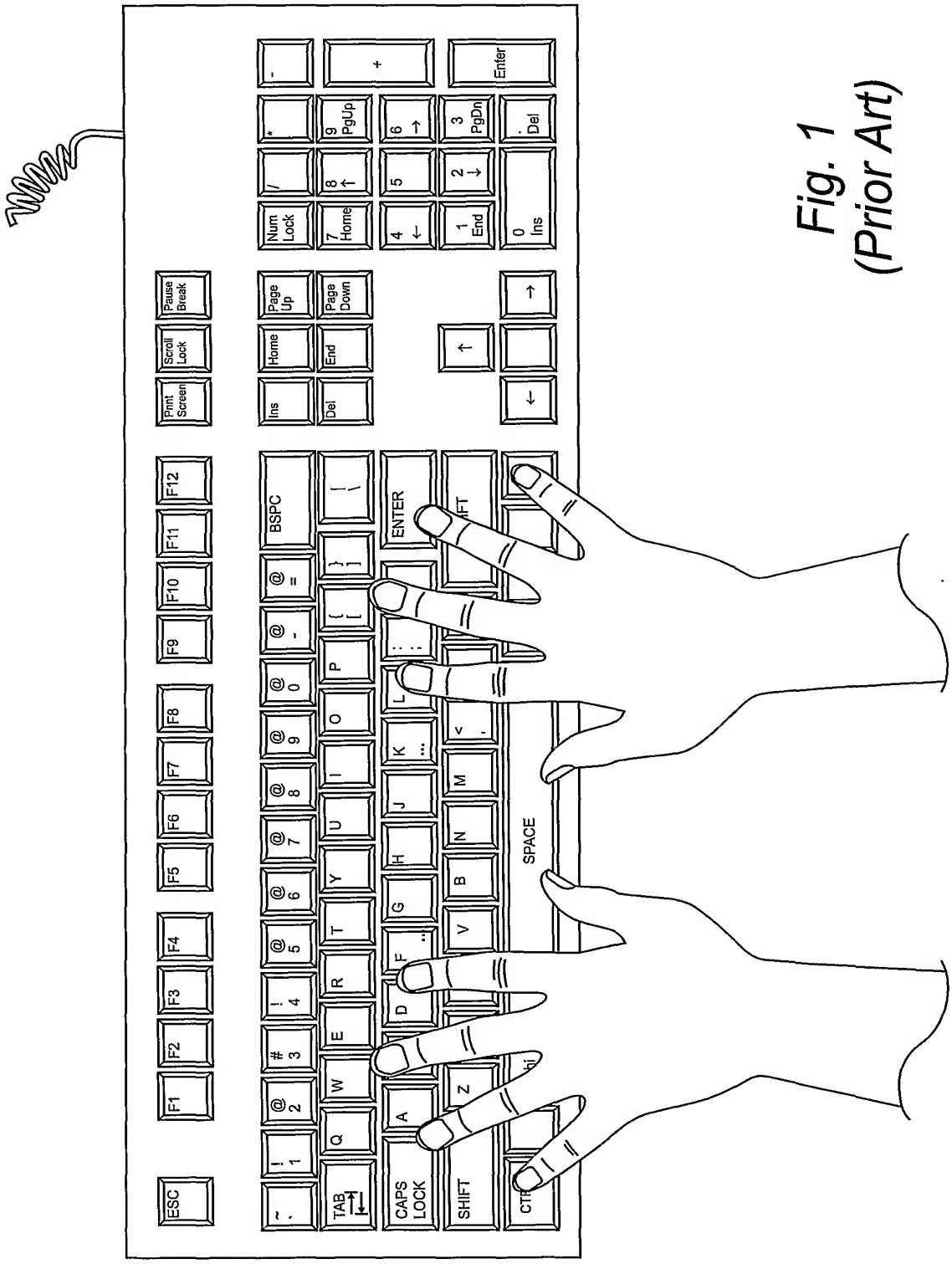


Fig. 1
(Prior Art)

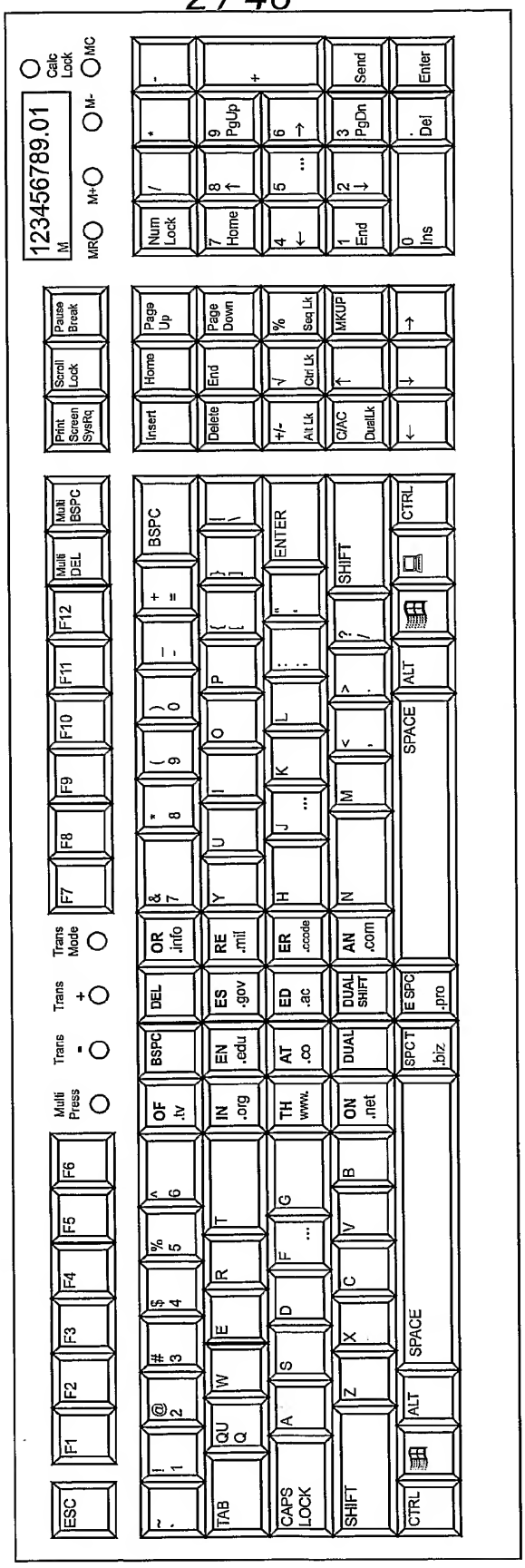

ESC
F1
F2
F3
F4
F5
F6
Multi Press
Trans
Trans
Trans Mode
F7
F8
F9
F10
F11
F12
Multi DEL
Multi BSPC
Print Screen SysRq
Scroll Lock
Pause Break
123456789.01
M
MR
M+
M-
MC
Calc Lock
Num Lock
Insert
Home
Page Up
Delete
End
Page Down
+/-
Alt Lk
Ctrl Lk
Seq Lk
C/AC
DualLk
MKUP
BSPC
TAB
CAPS LOCK
SHIFT
CTRL
ALT
SPACE
ENTER
SHIFT
CTRL
ALT
SPACE
Send
Enter
.info
.mil
.gov
.edu
.org
.tv
.code
.ac
.com
.net
.biz
.pro
www.

Fig. 2a

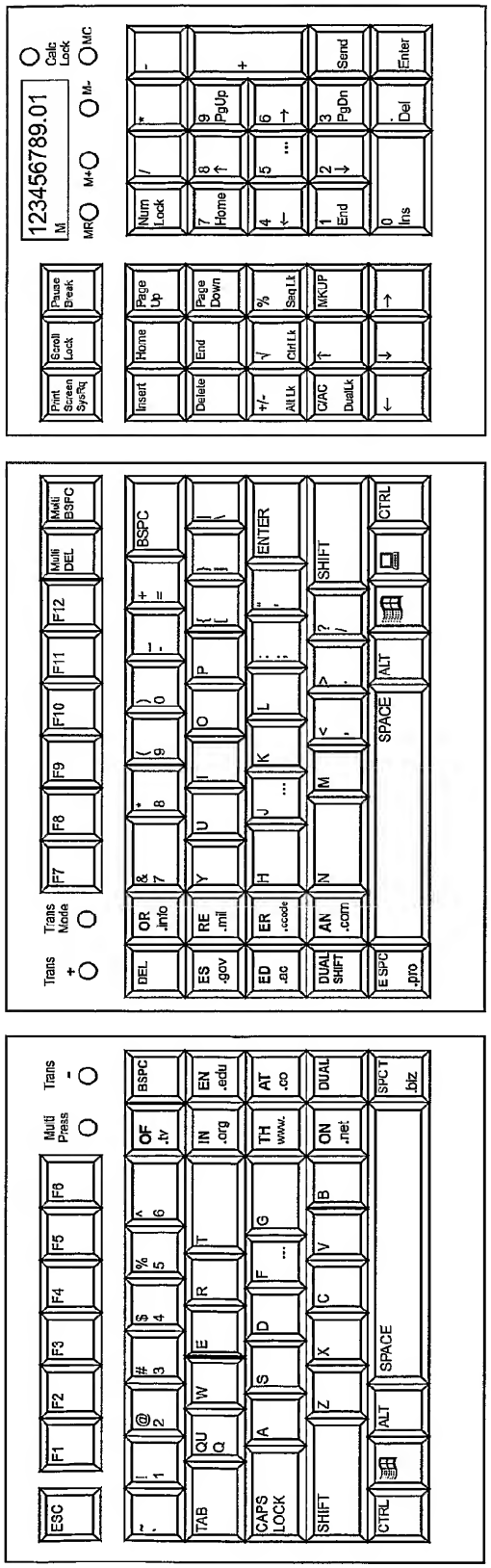


Fig. 2b

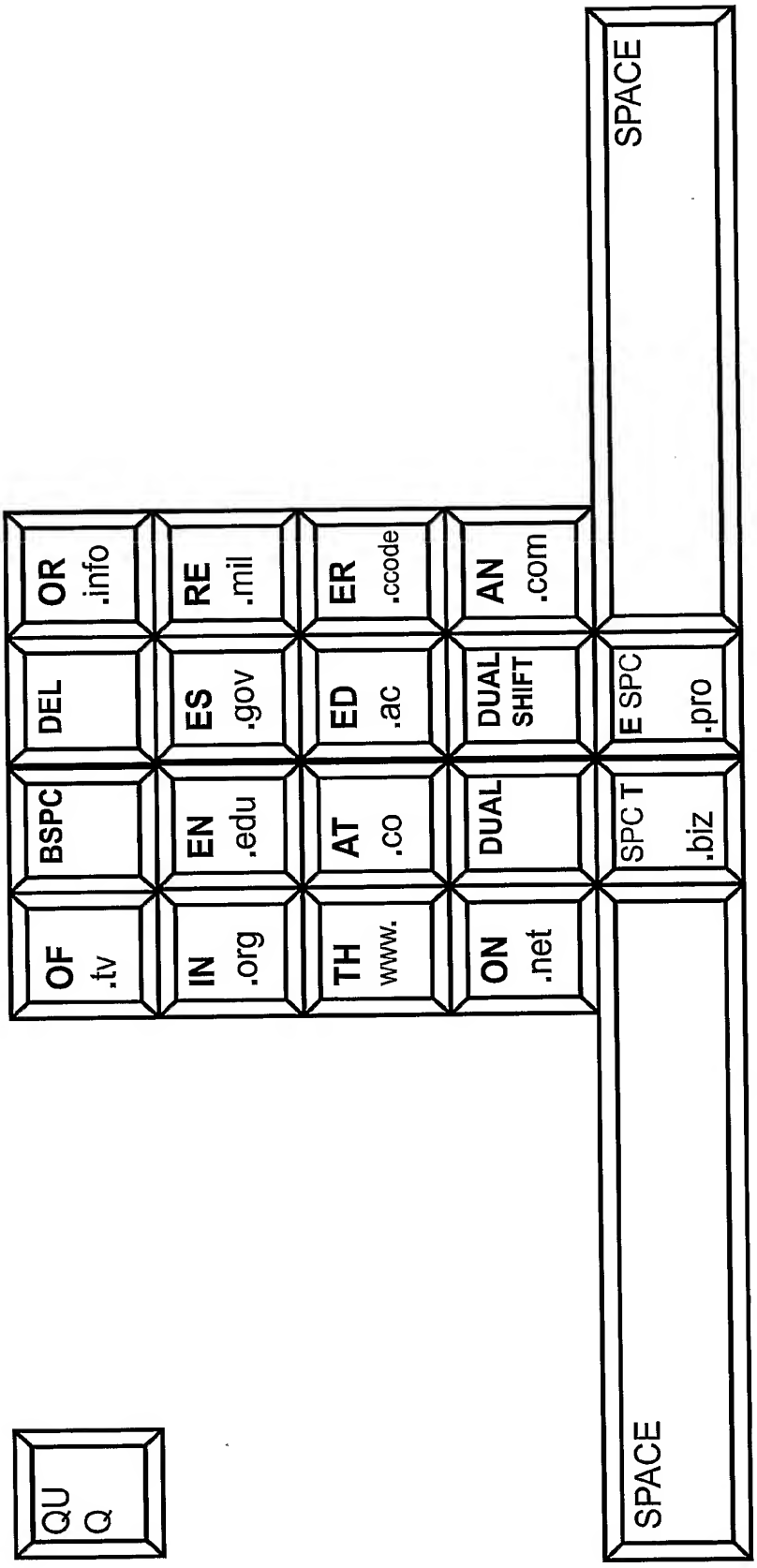

QU
Q
OF
.tv
IN
.org
TH
www.
ON
.net
BSPC
EN
.edu
AT
.co
DUAL
SPC T
.biz
DEL
ES
.gov
ED
.ac
DUAL
SHIFT
E SPC
.pro
OR
.info
RE
.mil
ER
.ccode
AN
.com
SPACE
SPACE

Fig. 2c

Physical MDP Feature:	Description:	Notes: (Assumes operation in Normal / Default Mode)
Keys:	QU/Q	Primary qu key-value, secondary q key-value
	OF/.tv	Primary of key-value, secondary <dot>tv key-value
	OR/.info	Primary or key-value, secondary <dot>info key-value
	IN/.org	Primary in key-value, secondary <dot>org key-value
	EN/.edu	Primary en key-value, secondary <dot>edu key-value
	ES/.gov	Primary es key-value, secondary <dot>gov key-value
	RE/.mil	Primary re key-value, secondary <dot>mil key-value
	TH/www.	Primary th key-value, secondary www<dot> key-value
	AT/.co	Primary at key-value, secondary <dot>co key-value
	ED/.ac	Primary ed key-value, secondary <dot>ac key-value
	ER/.ccode	Primary er key-value, secondary user configurable URL country-code key-value
	ON/.net	Primary on key-value, secondary <dot>net key-value
	AN/.com	Primary an key-value, secondary <dot>com key-value
	SPC T/.biz	Primary <space>t key-value, secondary <dot>biz key-value
	E SPC/.pro	Primary e<space> key-value, secondary <dot>pro key-value
	DUAL	Accesses secondary key-values
	DUAL SHIFT	Accesses SHIFT equivalent of secondary key-values
	Multi DEL	User configurable left-to-right delete of up to (N characters, words, sentences or paragraphs)
	Multi BSPC	User configurable right-to-left delete of up to (N characters, words, sentences or paragraphs)
	+/-/Alt Lk	Primary +/- sign operator, secondary ALT LOCK operator
	v/Ctrl Lk	Primary Square Root operator, secondary CTRL LOCK operator
	%/Seq Lk	Primary Percentage operator, secondary Sequential Typing LOCK operator
	C/AC/Dual Lk	Primary Clear Calculator operator, secondary DUAL LOCK operator
	MKUP	Percentage Mark Up calculation operator

Fig. 2d

Physical MDP Feature:	Description:	Notes: (Assumes operation in Normal / Default Mode)
Buttons	Multi Press	Multi-Press mode ON/OFF (aka Toggle feature)
	Trans	Translate Minimize (Implode)
	Trans +	Translate Maximize (Explode or Expand)
	Trans Mode	Translate mode ON/OFF (ON/OFF toggle of user configurable Automatic Translate feature)
	MR	Memory Recall
	M+	Memory Plus
	M-	Memory Minus
	MC	Memory Clear
	Calc Lock	Calculator mode ON/OFF (in combination with NUM LOCK)
LCD	LCD	Calculator LCD showing conventional calculator display characteristics (Numerics, Memory indicator, +/- sign, Error indicator etc.)

Fig. 2d cont.

Country codes for the user configurable .ccode MDP key values (default value is .uk).

.ac Ascension Island
.ad Andorra
.ae United Arab Emirates
.af Afghanistan
.ag Antigua and Barbuda
.ai Anguilla
.al Albania
.am Armenia
.an Netherlands Antilles
.ao Angola
.aq Antarctica
.ar Argentina
.as American Samoa
.at Austria
.au Australia
.aw Aruba
.az Azerbaijan
.ba Bosnia and Herzegovina
.bb Barbados
.bd Bangladesh
.be Belgium
.bf Burkina Faso
.bg Bulgaria
.bh Bahrain
.bi Burundi
.bj Benin
.bm Bermuda
.bn Brunei Darussalam
.bo Bolivia
.br Brazil
.bs Bahamas
.bt Bhutan
.bv Bouvet Island
.bw Botswana
.by Belarus
.bz Belize
.ca Canada
.cc Cocos (Keeling) Islands
.cd Congo, Democratic Republic of the
.cf Central African Republic
.cg Congo, Republic of
.ch Switzerland
.ci Cote d'Ivoire
.ck Cook Islands
.cl Chile
.cm Cameroon
.cn China
.co Colombia
.cr Costa Rica
.cu Cuba
.cv Cap Verde
.cx Christmas Island
.cy Cyprus
.cz Czech Republic
.de Germany
.dj Djibouti
.dk Denmark
.dm Dominica
.do Dominican Republic
.dz Algeria
.ec Ecuador
.ee Estonia
.eg Egypt
.eh Western Sahara
.er Eritrea
.es Spain
.et Ethiopia
.fi Finland
.fj Fiji
.fk Falkland Islands (Malvina)
.fm Micronesia, Federal State of
.fo Faroe Islands
.fr France
.ga Gabon
.gd Grenada
.ge Georgia
.gf French Guiana
.gg Guernsey
.gh Ghana
.gi Gibraltar
.gl Greenland.gm Gambia
.gn Guinea
.gp Guadeloupe
.gq Equatorial Guinea
.gr Greece
.gs South Georgia & South Sandwich Islands
.gt Guatemala
.gu Guam
.gw Guinea-Bissau
.gy Guyana
.hk Hong Kong
.hm Heard and McDonald Islands
.hn Honduras
.hr Croatia/Hrvatska
.ht Haiti

Fig. 3

Country codes for the user configurable .ccode MDP key values (default value is .uk).

.hu Hungary
.id Indonesia
.ie Ireland
.il Israel
.im Isle of Man
.in India
.io British Indian Ocean Territory
.iq Iraq
.ir Iran (Islamic Republic of)
.is Iceland
.it Italy
.je Jersey
.jm Jamaica
.jo Jordan
.jp Japan
.ke Kenya
.kg Kyrgyzstan
.kh Cambodia
.ki Kiribati
.km Comoros
.kn Saint Kitts and Nevis
.kp Korea, Democratic People's Republic
.kr Korea, Republic of
.kw Kuwait
.ky Cayman Islands
.kz Kazakhstan
.la Lao People's Democratic Republic
.lb Lebanon
.lc Saint Lucia
.li Liechtenstein
.lk Sri Lanka
.lr Liberia
.ls Lesotho
.lt Lithuania
.lu Luxembourg
.lv Latvia
.ly Libyan Arab Jamahiriya
.ma Morocco
.mc Monaco
.md Moldova, Republic of
.mg Madagascar
.mh Marshall Islands
.mk Macedonia, Former Yugoslav Republic
.ml Mali
.mm Myanmar
.mn Mongolia
.mo Macau
.mp Northern Mariana Islands
.mq Martinique
.mr Mauritania
.ms Montserrat
.mt Malta
.mu Mauritius
.mv Maldives
.mw Malawi
.mx Mexico
.my Malaysia
.mz Mozambique
.na Namibia
.nc New Caledonia
.ne Niger
.nf Norfolk Island
.ng Nigeria
.ni Nicaragua
.nl Netherlands
.no Norway.np Nepal
.nr Nauru
.nu Niue
.nz New Zealand
.om Oman
.pa Panama
.pe Peru
.pf French Polynesia
.pg Papua New Guinea
.ph Philippines
.pk Pakistan
.pl Poland
.pm St. Pierre and Miquelon
.pn Pitcairn Island
.pr Puerto Rico
.ps Palestinian Territories
.pt Portugal
.pw Palau
.py Paraguay
.qa Qatar
.re Reunion Island
.ro Romania
.ru Russian Federation
.rw Rwanda
.sa Saudi Arabia
.sb Solomon Islands
.sc Seychelles
.sd Sudan
.se Sweden
.sg Singapore
.sh St. Helena

Fig. 3 Cont.

Country codes for the user configurable .ccode MDP key values (default value is .uk).

.si Slovenia
.sj Svalbard and Jan Mayen Islands
.sk Slovak Republic
.sl Sierra Leone
.sm San Marino
.sn Senegal
.so Somalia
.sr Suriname
.st Sao Tome and Principe
.sv El Salvador
.sy Syrian Arab Republic
.sz Swaziland
.tc Turks and Caicos Islands
.td Chad
.tf French Southern Territories
.tg Togo
.th Thailand
.tj Tajikistan
.tk Tokelau
.tm Turkmenistan
.tn Tunisia
.to Tonga
.tp East Timor
.tr Turkey
.tt Trinidad and Tobago
.tv Tuvalu
.tw Taiwan
.tz Tanzania
.ua Ukraine
.ug Uganda
.uk United Kingdom
.um US Minor Outlying Islands
.us United States
.uy Uruguay
.uz Uzbekistan
.va Holy See (City Vatican State)
.vc Saint Vincent and the Grenadines
.ve Venezuela
.vg Virgin Islands (British)
.vi Virgin Islands (USA)
.vn Vietnam
.vu Vanuatu
.wf Wallis and Futuna Islands
.ws Western Samoa
.ye Yemen
.yt Mayotte
.yu Yugoslavia
.za South Africa
.zm Zambia
.zw Zimbabwe

Fig. 3 Cont.

Example 2: When I wish to type **www.dti.gov.uk** I can do it using the following keystrokes:

Stroke:	1	+2	34 5	6	+7	8	+9	
Key:	DUAL+TH/www.		d t i	DUAL+ES/.gov		DUAL+ER/.ccode		
Value:		**www.**	**d t i**		**.gov**		**.uk**	

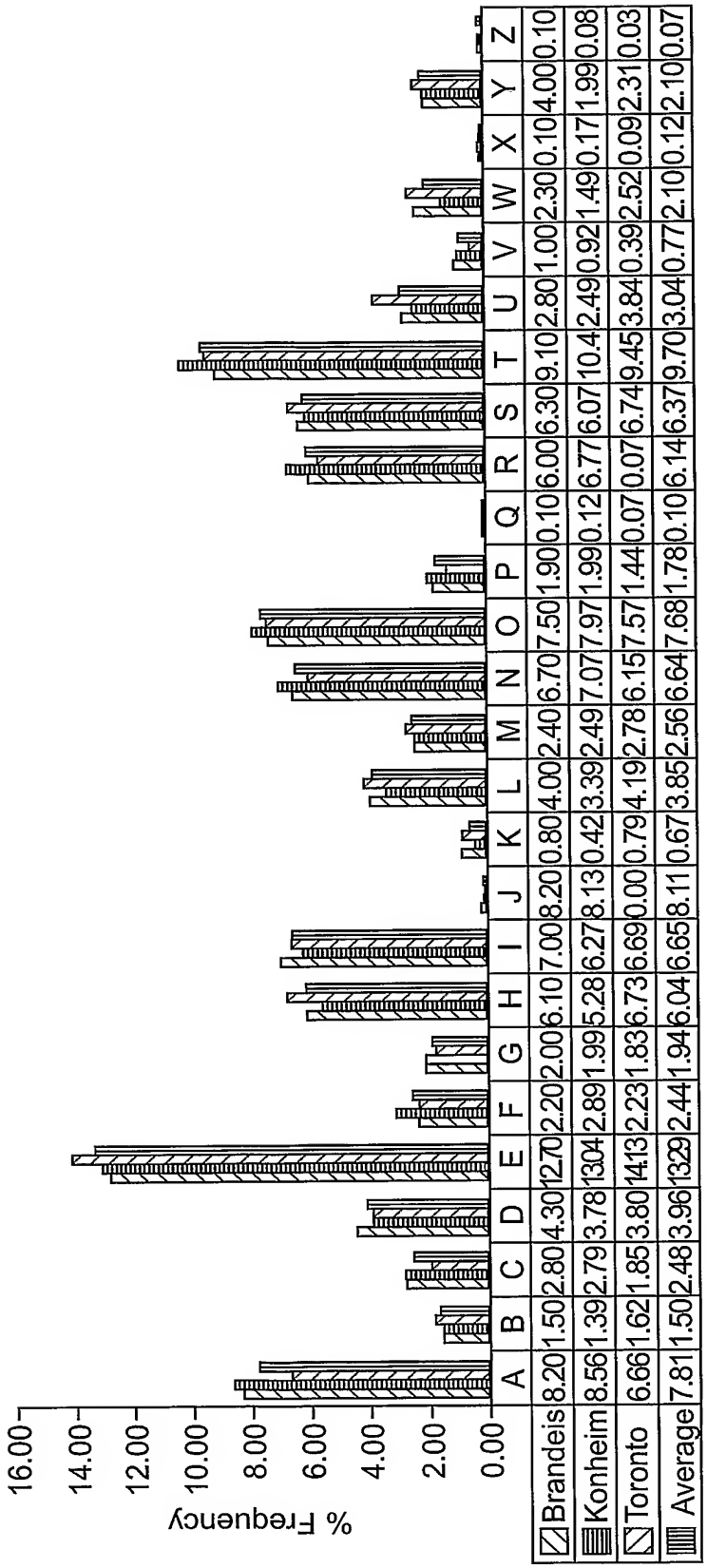
Screen:**www.dti.gov.uk**

Example 3: When I wish to type **www.another.ac.uk** I can do it using the following keystrokes:

Stroke:	1	+2	3	4 5	6		7	+8	9	+10
Key:	DUAL+TH/www.		AN/.com	o TH/www.		ER/.ccode	DUAL+ED/.ac		DUAL+ER/.ccode	
Value:		**www.**	**an**	**o th**		**er**		**.ac**		**.uk**

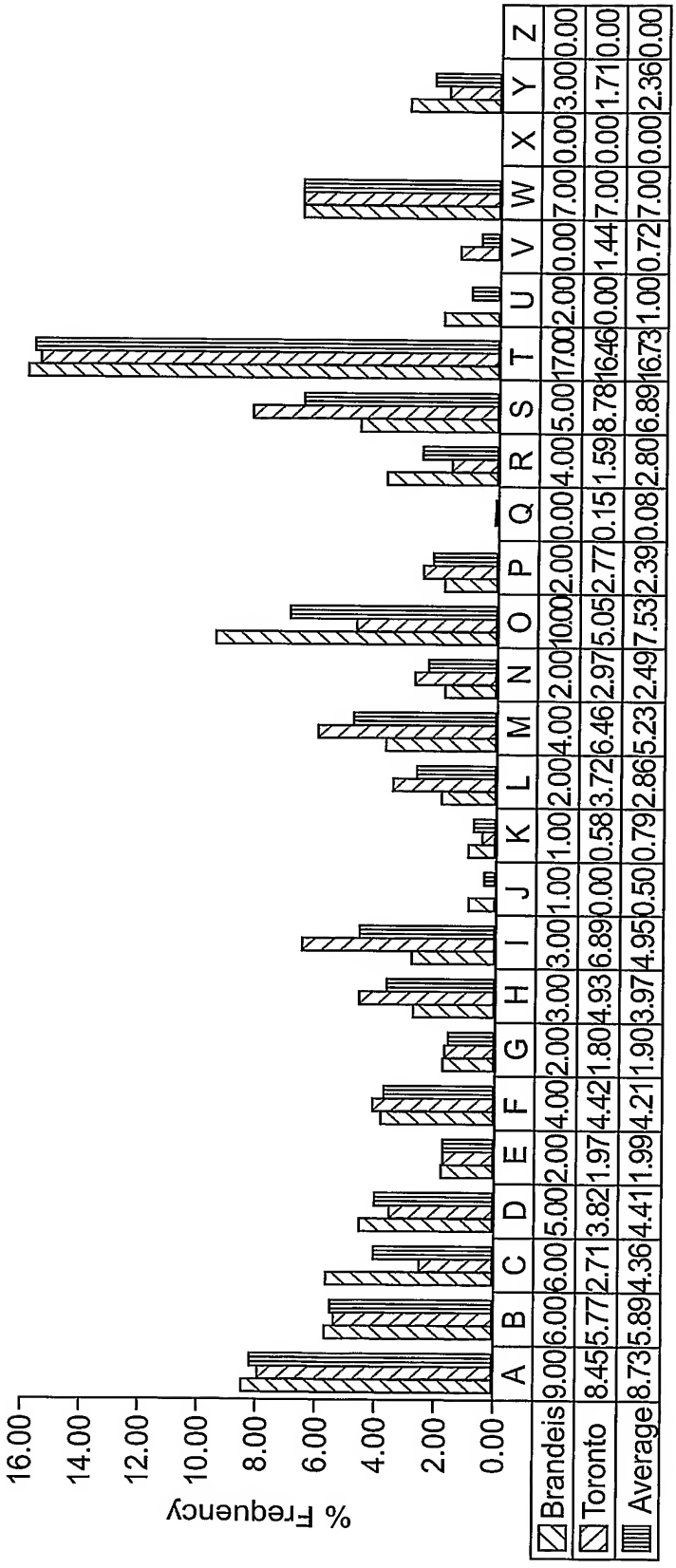
Screen: **www.another.ac.uk**

Fig. 4



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Brandeis	8.20	1.50	2.80	4.30	12.70	2.20	2.00	6.10	7.00	8.20	0.80	4.00	2.40	6.70	7.50	1.90	0.10	6.00	6.30	9.10	2.80	1.00	2.30	0.10	4.00	0.10
Konheim	8.56	1.39	2.79	3.78	13.04	2.89	1.99	5.28	6.27	8.13	0.42	3.39	2.49	7.07	7.97	1.99	0.12	6.77	6.07	10.42	2.49	0.92	1.49	0.17	1.99	0.08
Toronto	6.66	1.62	1.85	3.80	14.13	2.23	1.83	6.73	6.69	0.00	0.79	4.19	2.78	6.15	7.57	1.44	0.07	0.07	6.74	9.45	3.84	0.39	2.52	0.09	2.31	0.03
Average	7.81	1.50	2.48	3.96	13.29	2.44	1.94	6.04	6.65	8.11	0.67	3.85	2.56	6.64	7.68	1.78	0.10	6.14	6.37	9.70	3.04	0.77	2.10	0.12	2.10	0.07

Fig. 5a



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Brandeis	9.00	6.00	6.00	5.00	2.00	4.00	2.00	3.00	3.00	1.00	1.00	2.00	4.00	2.00	10.00	2.00	0.00	4.00	5.00	17.00	2.00	0.00	7.00	0.00	3.00	0.00
Toronto	8.45	5.77	2.71	3.82	1.97	4.42	1.80	4.93	6.89	0.00	0.58	3.72	6.46	2.97	5.05	2.77	0.15	1.59	8.78	16.46	0.00	1.44	7.00	0.00	1.71	0.00
Average	8.73	5.89	4.36	4.41	1.99	4.21	1.90	3.97	4.95	0.50	0.79	2.86	5.23	2.49	7.53	2.39	0.08	2.80	6.89	16.73	1.00	0.72	7.00	0.00	2.36	0.00

Fig. 5b

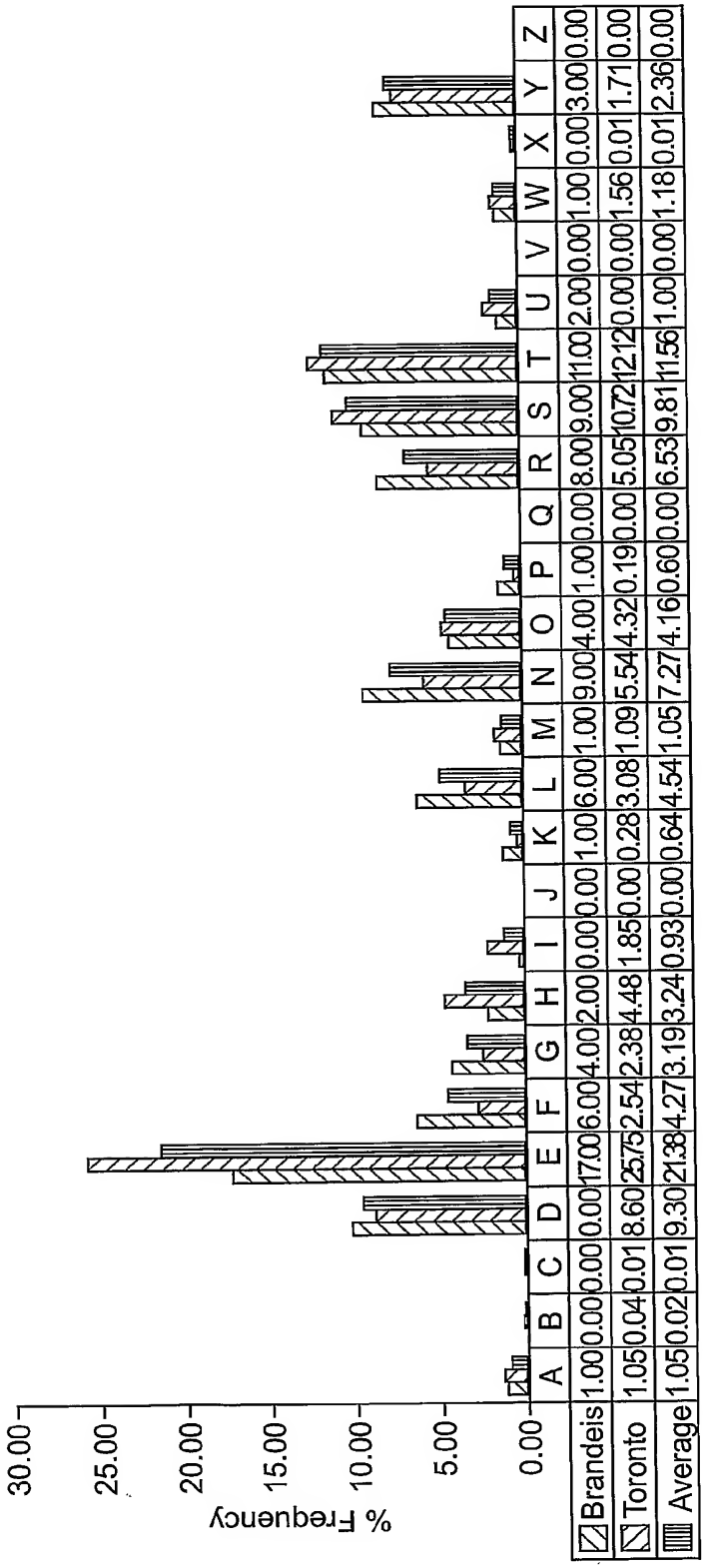

30.00
25.00
20.00
15.00
10.00
5.00
0.00
% Frequency
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Brandeis 1.00 0.00 0.00 0.00 17.00 6.00 4.00 2.00 0.00 0.00 1.00 6.00 1.00 9.00 4.00 1.00 0.00 8.00 9.00 11.00 2.00 0.00 1.00 0.00 3.00 0.00
Toronto 1.05 0.04 0.01 8.60 25.75 2.54 2.38 4.48 1.85 0.00 0.28 3.08 1.09 5.54 4.32 0.19 0.00 5.05 10.72 12.12 0.00 0.00 1.56 0.01 1.71 10.00
Average 1.05 0.02 0.01 9.30 21.38 4.27 3.19 3.24 0.93 0.00 0.64 4.54 1.05 7.27 4.16 0.60 0.00 6.53 9.81 11.56 1.00 0.00 1.18 0.01 2.36 0.00

Fig. 5c

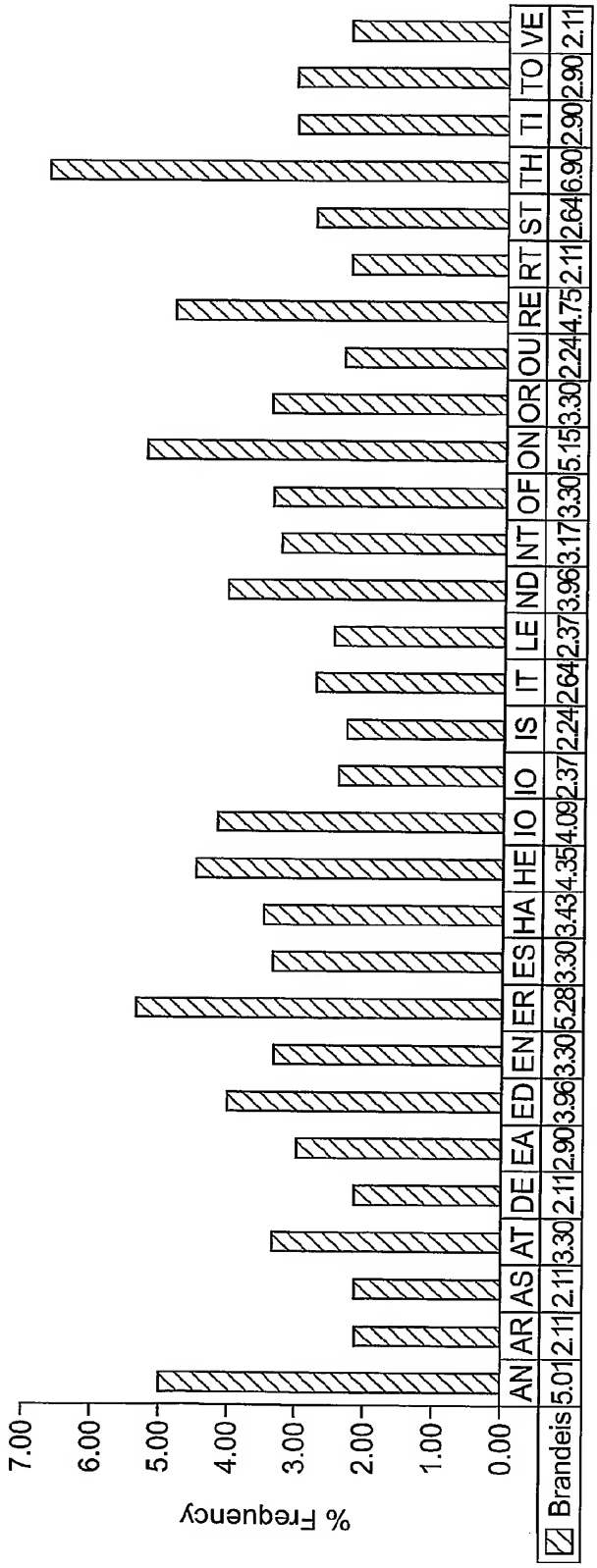

% Frequency
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Brandeis
AN 5.01
AR 2.11
AS 2.11
AT 3.30
DE 2.11
EA 2.90
ED 3.96
EN 3.30
ER 5.28
ES 3.30
HA 3.43
HE 4.35
IO 4.09
IO 2.37
IS 2.24
IT 2.64
LE 2.37
ND 3.96
NT 3.17
OF 3.30
ON 5.15
OR 3.30
OU 2.24
RE 4.75
RT 2.11
ST 2.64
TH 6.90
TI 2.90
TO 2.90
VE 2.11

Fig. 5d

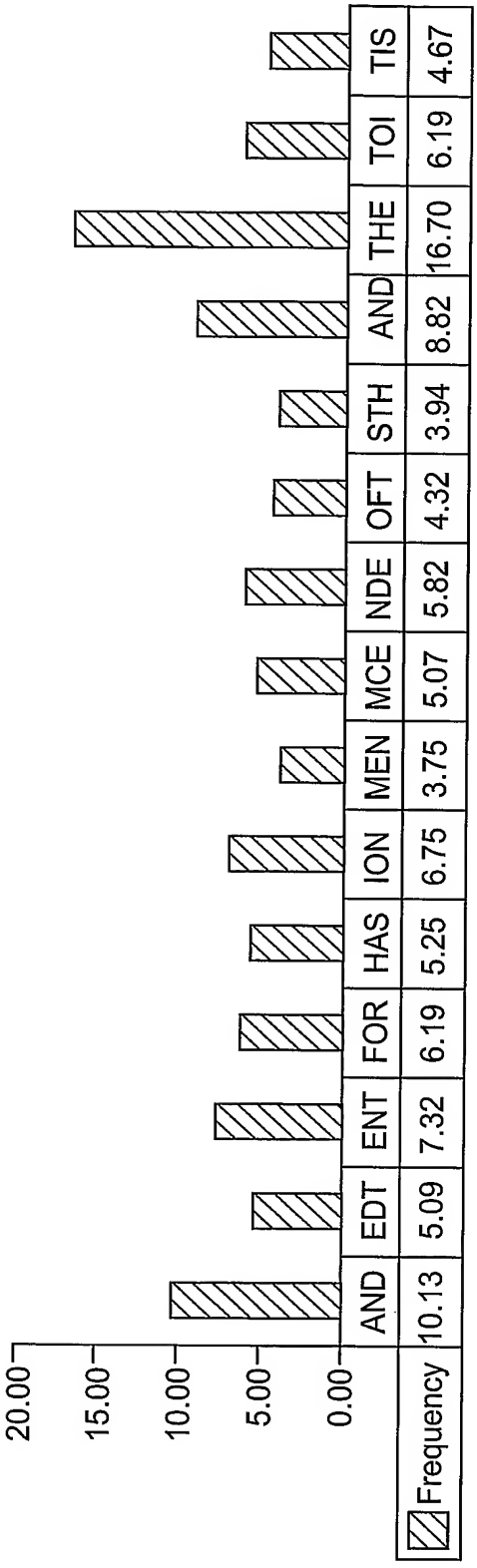

20.00
15.00
10.00
5.00
0.00
Frequency
AND 10.13
EDT 5.09
ENT 7.32
FOR 6.19
HAS 5.25
ION 6.75
MEN 3.75
MCE 5.07
NDE 5.82
OFT 4.32
STH 3.94
AND 8.82
THE 16.70
TOI 6.19
TIS 4.67

Fig. 5e

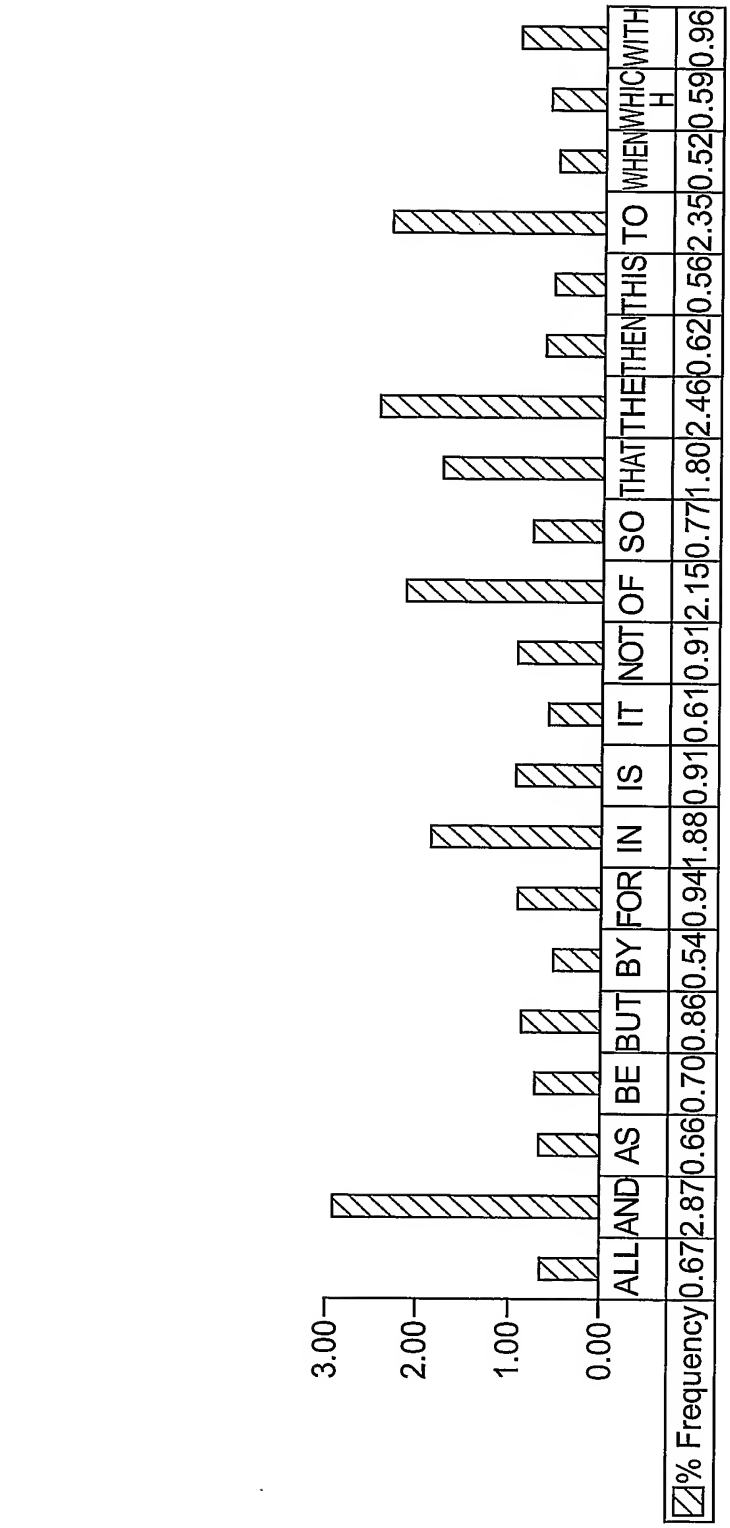

3.00
2.00
1.00
0.00
% Frequency
ALL AND AS BE BUT BY FOR IN IS IT NOT OF SO THAT THE THEN THIS TO WHEN WHICH WITH
0.67 2.87 0.66 0.70 0.86 0.54 0.94 1.88 0.91 0.61 0.91 2.15 0.77 1.80 2.46 0.62 0.56 2.35 0.52 0.59 0.96

Fig. 5f

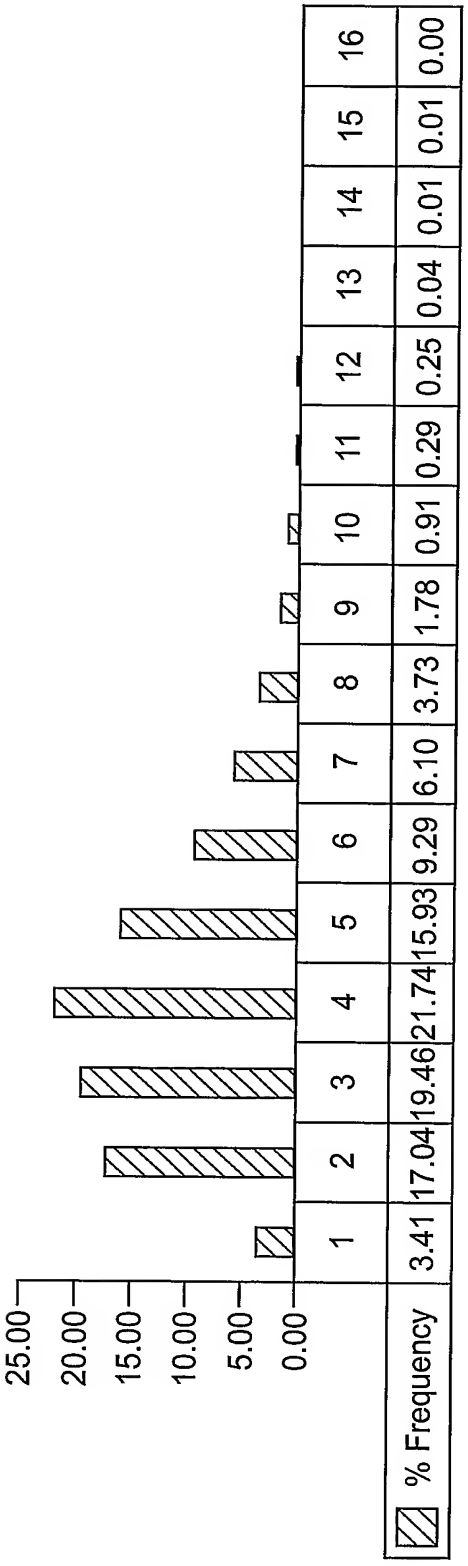

25.00
20.00
15.00
10.00
5.00
0.00
% Frequency
1 3.41
2 17.04
3 19.46
4 21.74
5 15.93
6 9.29
7 6.10
8 3.73
9 1.78
10 0.91
11 0.29
12 0.25
13 0.04
14 0.01
15 0.01
16 0.00

Fig. 5g

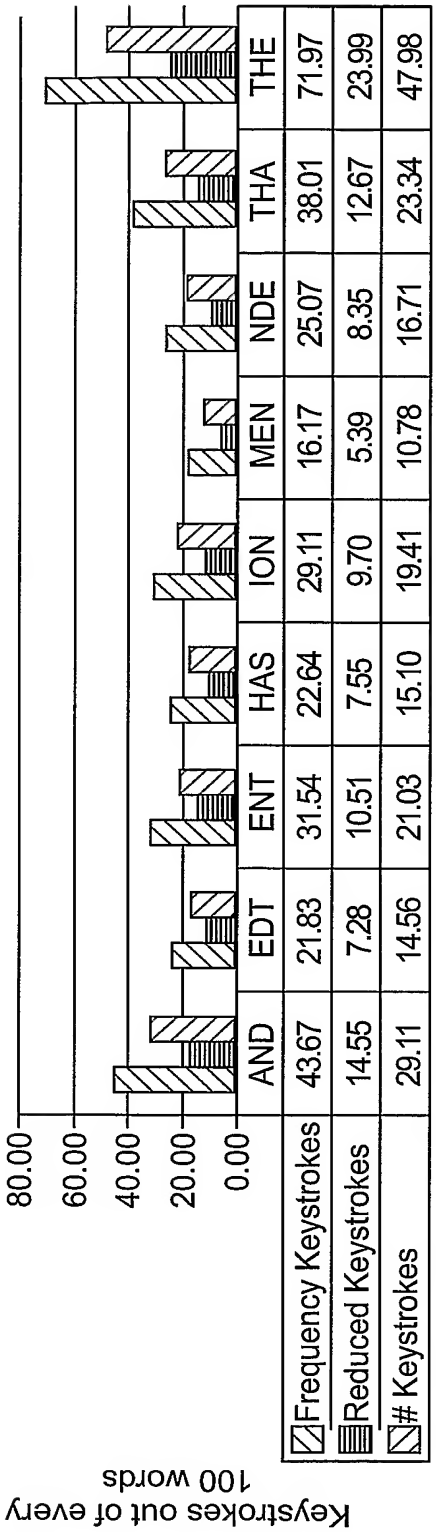

80.00
60.00
40.00
20.00
0.00
Keystrokes out of every 100 words
Frequency Keystrokes
Reduced Keystrokes
Keystrokes
AND 43.67 14.55 29.11
EDT 21.83 7.28 14.56
ENT 31.54 10.51 21.03
HAS 22.64 7.55 15.10
ION 29.11 9.70 19.41
MEN 16.17 5.39 10.78
NDE 25.07 8.35 16.71
THA 38.01 12.67 23.34
THE 71.97 23.99 47.98

Fig. 5h

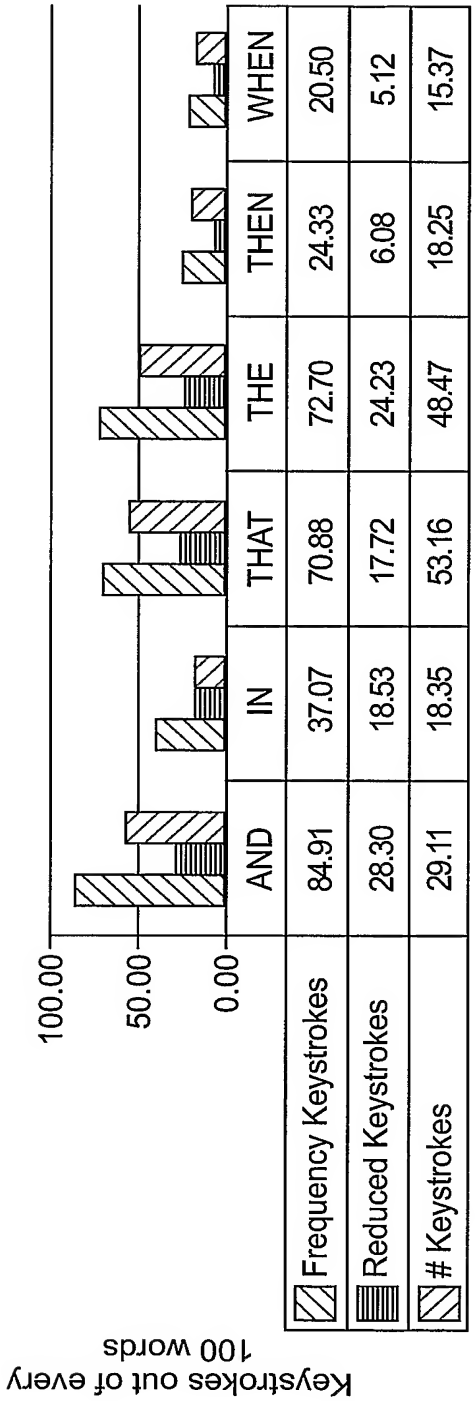

Keystrokes out of every 100 words
100.00
50.00
0.00
AND
IN
THAT
THE
THEN
WHEN
Frequency Keystrokes 84.91 37.07 70.88 72.70 24.33 20.50
Reduced Keystrokes 28.30 18.53 17.72 24.23 6.08 5.12
Keystrokes 29.11 18.35 53.16 48.47 18.25 15.37

Fig. 5i

	Normal Mode			Caps Lock Mode		
	Letter Key (t,T)	Symbol Key (3,#)	Feature Key (th,TH,www.)	Letter Key (T,t)	Symbol Key (3,#)	Feature Key (TH,th,WWW.)
Normal	t	3	th	T	3	TH
Shift	T	#	TH	t	#	th
Dual	T	#	www.	t	#	WWW.
Dual Shift	T	#	WWW.	t	#	www.

Fig. 6a

	Normal Mode			Caps Lock Mode		
	Letter Key (t,T,the)	Symbol Key (qu,QU,q)	Feature Key (th,TH,www.)	Letter Key (T,t,THE)	Symbol Key (QU,qu,Q)	Feature Key (TH,th,WWW.)
Normal	t	Qu	th	T	QU	TH
Shift	T	QU	TH	t	qu	th
Dual	the	q	www.	the	Q	WWW.
Dual Shift	THE	Q	WWW.	THE	q	www.

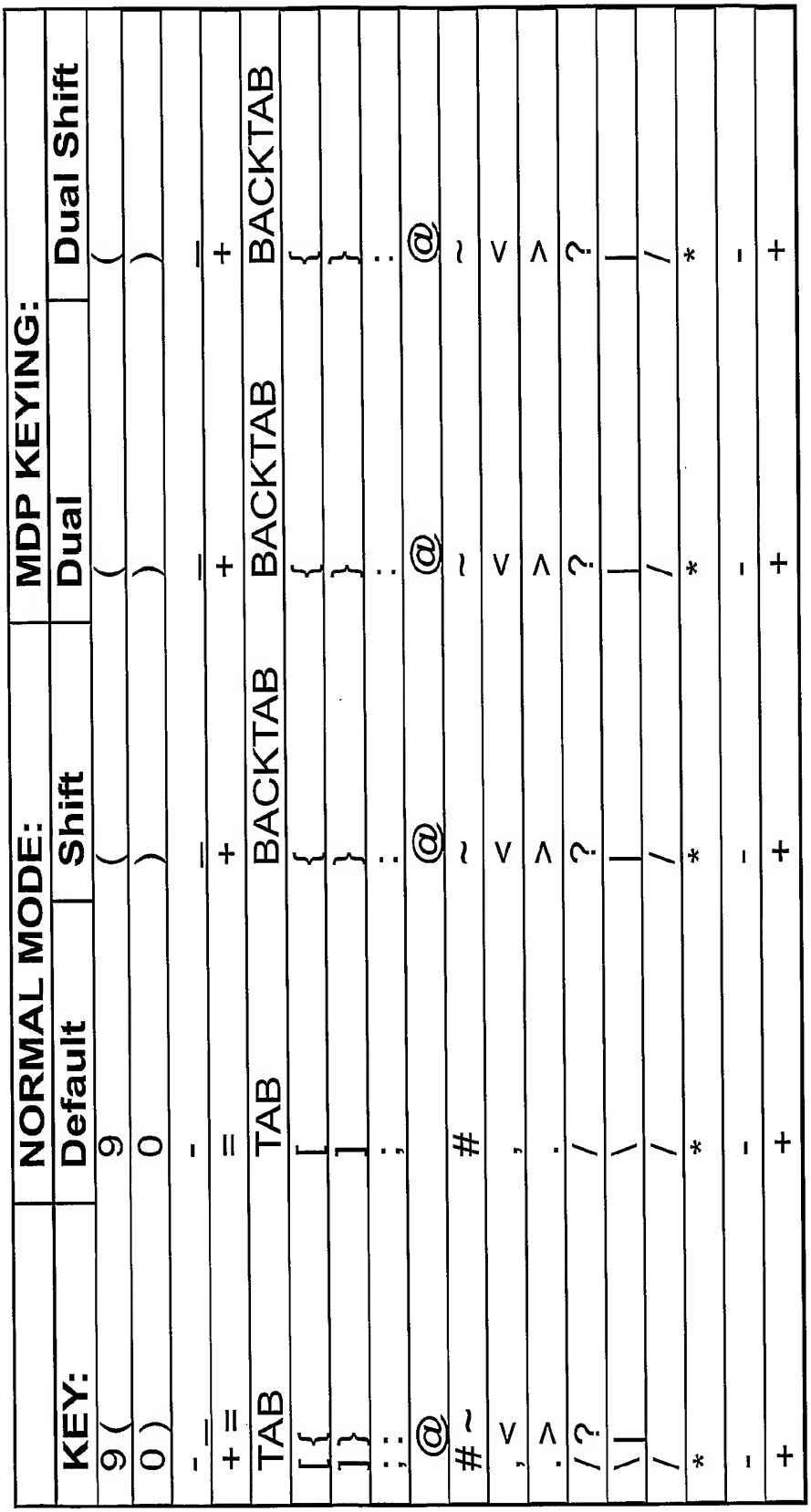
Fig. 6b

	NORMAL MODE:		MDP KEYING:	
KEY:	**Default**	**Shift**	**Dual**	**Dual Shift**
OF .tv	of	OF	.tv	.TV
ED .ac.	ed	ED	.ac.	.AC.
ON .net	on	ON	.net	.NET
EN .edu	en	EN	.edu	.EDU
ES .gov	es	ES	.gov	.GOV
RE .mil	re	RE	.mil	.MIL
TH www.	th	TH	www.	WWW.
AT .co.	at	AT	.co.	.CO.
OR .info	or	OR	.info	.INFO
AN .com	an	AN	.com	.COM
IN .org	in	IN	.org	.ORG
ER .ccode	er	ER	.<ccode>	.<CCODE>
SPC T .biz	<space>t	<space>T	.biz	.BIZ
E SPC .pro	e<space>	E<space>	.pro	.PRO
QU q	qu	QU	q	Q
W	w	W	W	W
E	e	E	E	E
R	r	R	R	R
T	t	T	T	T
Y	y	Y	Y	Y
U	u	U	U	U
I	i	I	I	I
O	o	O	O	O
P	p	P	P	P

Fig. 6c

	NORMAL MODE:		MDP KEYING:	
KEY:	Default	Shift	Dual	Dual Shift
A	a	A	A	A
S	s	S	S	S
D	d	D	D	D
F	f	F	F	F
G	g	G	G	G
H	h	H	H	H
J	j	J	J	J
K	k	K	K	K
L	l	L	L	L
Z	z	Z	Z	Z
X	x	X	X	X
C	c	C	C	C
V	v	V	V	V
B	b	B	B	B
N	n	N	N	N
M	m	M	M	M
`¬'	`¬	¬	¬	¬
1 !	1	!	!	!
2"	2	"	"	"
3£	3	£	£	£
4 $	4	$	$	$
5 %	5	%	%	%
6 ^	6	^	^	^
7 &	7	&	&	&
8 *	8	*	*	*

Fig 6c cont.



	NORMAL MODE:		MDP KEYING:	
KEY:	Default	Shift	Dual	Dual Shift
9 (	9	(	(	(
0)	0	)	)	)
- _	-	_	_	_
+ =	=	+	+	+
TAB	TAB	BACKTAB	BACKTAB	BACKTAB
[{	[	{	{	{
] }	]	}	}	}
; :	;	:	:	:
@		@	@	@
# ~	#	~	~	~
, ∨	,	∨	∨	∨
. ∧	.	∧	∧	∧
/ ?	/	?	?	?
\ |	\	|	|	|
/	/	/	/	/
*	*	*	*	*
-	-	-	-	-
+	+	+	+	+

Fig. 6c cont.

	CAPS LOCK MODE:		MDP KEYING:	
KEY:	**Default**	**Shift**	**Dual**	**Dual Shift**
OF .tv	OF	of	.TV	.tv
ED .ac.	ED	ed	.AC.	.ac.
ON .net	ON	on	.NET	.net
EN .edu	EN	en	.EDU	edu
ES .gov	ES	es	.GOV	.gov
RE .mil	RE	re	.MIL	.mil
TH www.	TH	th	WWW.	www.
AT .co.	AT	at	CO.	.co.
OR .info	OR	or	.INFO	.info
AN .com	AN	an	.COM	.com
IN .org	IN	in	.ORG	.org
ER .ccode	ER	er	.<CCODE>	<ccode>
SPC T .biz	<space>T	<space>t	.BIZ	.biz
E SPC .pro	E<space>	e<space>	.PRO	.pro
QU q	QU	qu	Q	q
W	W	w	w	w
E	E	e	e	e
R	R	r	r	r
T	T	t	t	t
Y	Y	y	y	y
U	U	u	u	u
I	I	i	i	i
O	O	o	o	o
P	P	p	p	p
A	A	a	a	a

Fig. 6d

	CAPS LOCK MODE:		MDP KEYING:	
KEY:	Default	Shift	Dual	Dual Shift
S	S	s	s	s
D	D	d	d	d
F	F	f	f	f
G	G	g	g	g
H	H	h	h	h
J	J	j	j	j
K	K	k	k	k
L	L	l	l	l
Z	Z	z	z	z
X	X	x	x	x
C	C	c	c	c
V	V	v	v	v
B	B	b	b	b
N	N	n	n	n
M	M	m	m	m
,'	,	'	'	'
1 !	1	!	!	!
2"	2	"	"	"
3£	3£	£	£	£
4 $	4	$	$	$
5 %	5	%	%	%
6 ^	6	^	^	^
7 &	7	&	&	&
8 *	8	*	*	*
9 (	9	(	(	(

Fig. 6d Cont.

	CAPS LOCK MODE:		MDP KEYING:	
KEY:	Default	Shift	Dual	Dual Shift
0)	0	)	)	
- _	-	_	_	
= +	=	+	+	+
TAB	TAB	BACKTAB	BACKTAB	BACKTAB
[{	[	{	{	{
] }	]	}	}	}
; :	;	:	:	
@	'	@	@	@
# ~	#	~	~	~
, v	,	v	v	v
. ^	.	^	^	^
/ ?	/	?	?	?
\ |	\	|	|	|
/	/	/	/	/
*	*	*	*	*
-	-	-	-	-
+	+	+	+	+

Fig. 6d Cont.

	DUAL LOCK MODE:		MDP KEYING:	
KEY:	**Default**	**Shift**	**Dual**	**Dual Shift**
OF .tv	.tv	.TV	of	OF
ED .ac.	.ac.	.AC.	ed	ED
ON .net	.net	.NET	on	ON
EN .edu	.edu	.EDU	en	EN
ES .gov	.gov	.GOV	es	ES
RE .mil	.mil	.MIL	re	RE
TH www.	www.	WWW.	th	TH
AT .co.	.co.	.CO.	at	AT
OR .info	.info	.INFO	or	OR
AN .com	.com	.COM	an	AN
IN .org	.org	.ORG	in	IN
ER .ccode	.<ccode>	.<CCODE>	er	ER
SPC T .biz	.biz	.BIZ	<space>t	<space>T
E SPC .pro	.pro	.PRO	e<space>	E<space>
QU q	q	Q	qu	QU
W	w	W	W	W
E	e	E	E	E
R	r	R	R	R
T	t	T	T	T
Y	y	Y	Y	Y
U	u	U	U	U
I		I	I	I
O	o	O	O	O
P	p	P	P	P
A	a	A	A	A

Fig. 6e

	DUAL LOCK MODE:		MDP KEYING:	
KEY:	Default	Shift	Dual	Dual Shift
S	s	S	S	S
D	d	D	D	D
F	f	F	F	F
G	g	G	G	G
H	h	H	H	H
J	j	J	J	J
K	k	K	K	K
L	l	L	L	L
Z	z	Z	Z	Z
X	x	X	X	X
C	c	C	C	C
V	v	V	V	V
B	b	B	B	B
N	n	N	N	N
M	m	M	M	M
¬`	`	¬	¬	¬
!	1	!	!	!
2"	2	"	"	"
3£	3	£	£	£
4 $	4	$	$	$
5 %	5	%	%	%
6 ^	6	^	^	^
7 &	7	&	&	&
8 *	8	*	*	*
9(	9	(	(	(

Fig. 6e Cont.

	DUAL LOCK MODE:		MDP KEYING:	
KEY:	Default	Shift	Dual	Dual Shift
0)	0	)	)	)
- _	-	_	_	_
= +	=	+	+	+
TAB	TAB	BACKTAB	BACKTAB	BACKTAB
[{	[	{	{	{
] }	]	}	}	}
; :	;	:	:	:
@	@	@	@	@
# ~	#	~	~	~
, V	,	V	V	V
. ^	.	^	^	^
/ ?	/	?	?	?
|	\	|	|	|
/	/	/	/	/
*	*	*	*	*
-	-	-	-	-
+	+	+	+	+

Fig. 6e Cont.

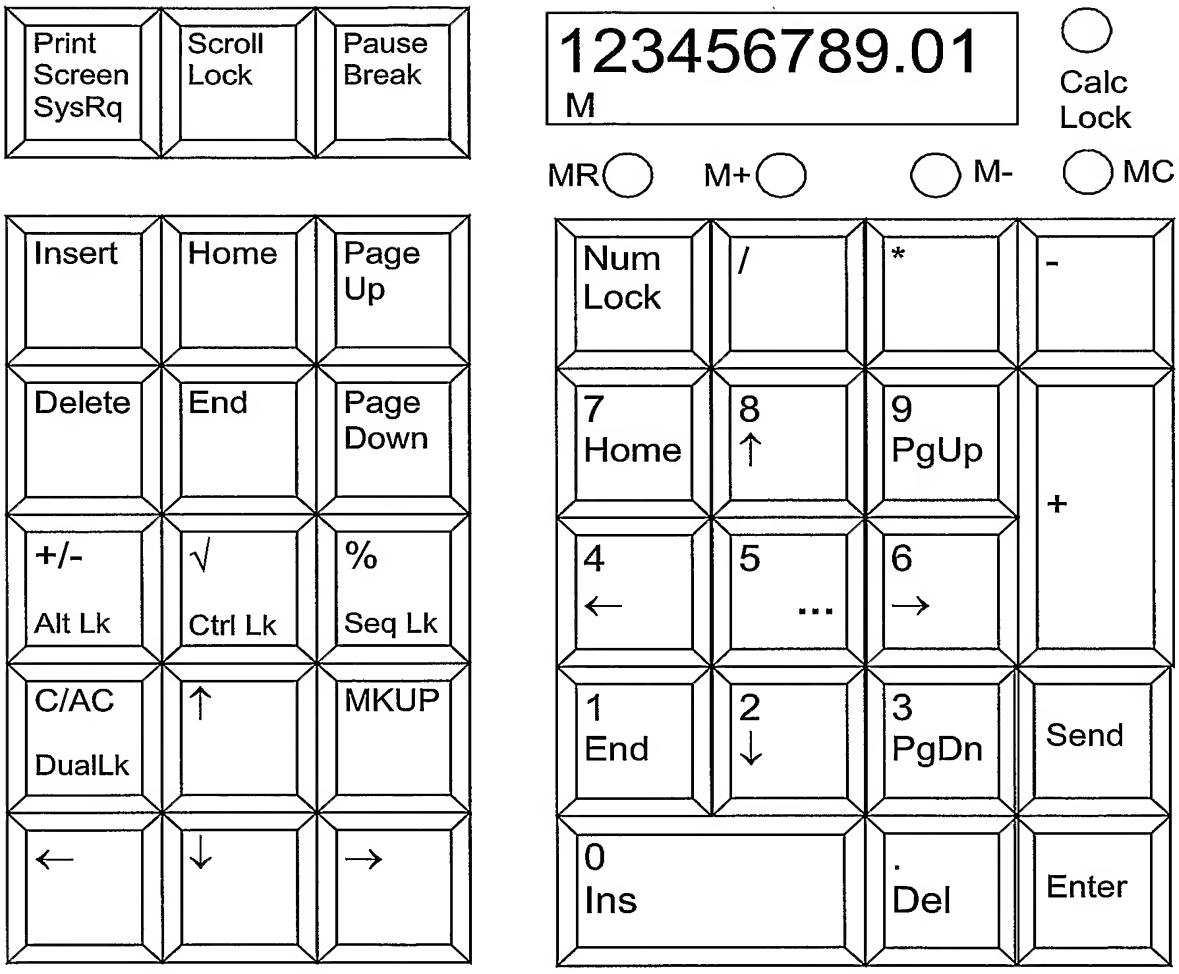

Print Screen SysRq
Scroll Lock
Pause Break
123456789.01
M
Calc Lock
MR
M+
M-
MC
Insert
Home
Page Up
Delete
End
Page Down
+/- Alt Lk
√ Ctrl Lk
% Seq Lk
C/AC DualLk
↑
MKUP
←
↓
→
Num Lock
/
*
-
7 Home
8 ↑
9 PgUp
+
4 ←
5 ...
6 →
1 End
2 ↓
3 PgDn
Send
0 Ins
. Del
Enter

Fig. 7

ENGLISH Language Component Breakdowns and Order of Frequencies

Order Of Frequency Of Single Letters	E N A S R I U T O L D C M P V F B G X H Q Y Z J K W
Order Of Frequency Of Digraphs	**th er on an re** he **in ed** nd ha **at en es of or** nt ea ti to it st io le i s ou ar as de rt ve
Order Of Frequency Of Trigraphs	the and tha ent ion tio for nde has nce edt tis oft sth men
Order Of Frequency Of Most Common Doubles	ss ee tt ff ll mm oo
Order Of Frequency Of Initial Letters	**<space>T** 0 A W B C D S F M R H I Y E G L N P U J K
Order Of Frequency Of Final Letters	**E<space>** S T D N R Y F L 0 G H A K M P U W
One-Letter Words	A, I.
Most Frequent Two-Letter Words	of to in it is be as at so we he by or on do if me my up an go no us am
Most Frequent Three-Letter Words	the and for are but not you all any can had her was one our out day get has him his how man new now old see two way who boy did its let put say she too use
Most Frequent Four-Letter Words	that with have this will your from they know want been good much some time

FRENCH Language Component Breakdowns and Order of Frequencies

Order Of Frequency Of Single Letters	E N A S R I U T 0 L D C M P V F B G X H Q Y Z J K W
Most Common Digraphs	**es en** nt **re on le ou de se an te ai** er ne **em** ed **ar ce** me it et ie ti el ns ur
Most Common Trigraphs	ede les lle que ait eme ion eur ell sse est dan del men des tio ese ans ter ons qui ais ous ent
Most Frequent Doubles	ss ll ee nn tt ff cc rr mm pp
One-Letter Words	a, y, o
Most Common Two-Letter Words	au ce ci de du en et il je la le ma me ne ni on ou sa se si un

GERMAN Language Component Breakdowns and Order of Frequencies

Order Of Frequency Of Single Letters	E N R I S T U D A H G L 0 C M B Z F W K V P J Q X Y
Most Common Digraphs	**en ch er ei te ie** de **ge es** in **ne st un re be an** el di ue se au he it ri tz
Most Common Trigraphs	ein ich den der ten cht sch che die ung gen und nen des ben rch
Most Frequent Doubles	ee tt ll ss dd mm nn
Most Common Two-Letter Words	ab am an da er es ob so wo im in um zu du ja ab

Fig. 8

ITALIAN Language Component Breakdowns and Order of Frequencies

Order Of Frequency Of Single Letters	E I A O R L N T S C D P U M G V H Z B F Q J K W X Y
Most Common Digraphs	**er en** re **el an on la nt es di** ti si **al de ra** co **ta to** le li in io ar or
Most Common Trigraphs	che ere zio del que ari ato eco edi ide esi idi ero par nte sta men
Most Frequent Doubles	ll ss tt ee pp nn bb gg cc
One-Letter Words	e a i o
Most Common Two-Letter Words	di in ha ho

SPANISH Language Component Breakdowns and Order of Frequencies

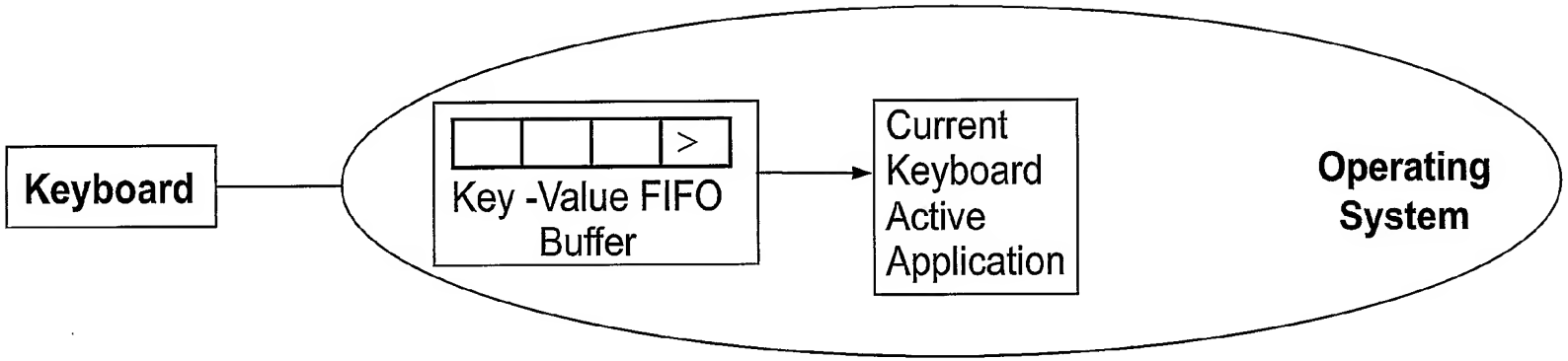
Order Of Frequency Of Single Letters	E A O S R I N L D C T U P M Y Q G B H F V J Z K W X
Most Common Digraphs	**es en el de la os ar ue ra re er as** on st **ad** ai or ta co **se** ac ec ci ia
Most Common Trigraphs	que est ara ado aqu del cio nte osa ede per ist nei res sde
Most Frequent Doubles	ee ll rr aa ss cc dd nn
One-Letter Words	a e o u y
Most Common Two-Letter Words	en la de lo el se

Fig. 8 Cont.

Multi-Press (or Toggle), Translate - (Minimize or Implode), Translate + (Maximise or Explode) MPD Keys, and Trans-Mode keys or buttons.

Phrase:	Dictionary Type:	Translate	Translate+	Notes:
ruf2c	SMS Texting	ruf2c	are you free to chat	*Maximize effect*
as soon as possible	Abbreviation	asap	as soon as possible	*Minimize effect*
dog	English-French	dog	chien	*Language verbatim translation*
keyboard	Dictionary	keyboard	n. A set of keys, as on a computer terminal, word processor, typewriter, or piano	*Normal dictionary providing meaning of words etc.*
water + carbon dioxide	Chemical	h2o + co2	water + carbon dioxide	*Science oriented*
gizsum wadda mate	User Defined	gizsum wadda mate	give me some water please	*Habitual or behavioural*

Fig. 9



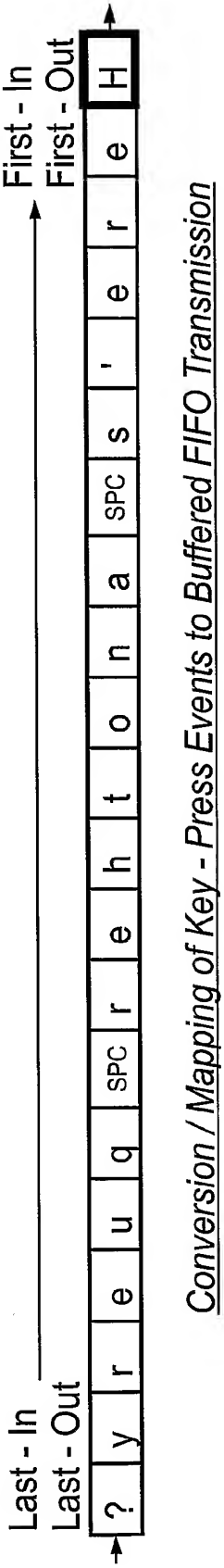
Operating Scenario for Key - Value FIFO Buffer

First Event → Last Event

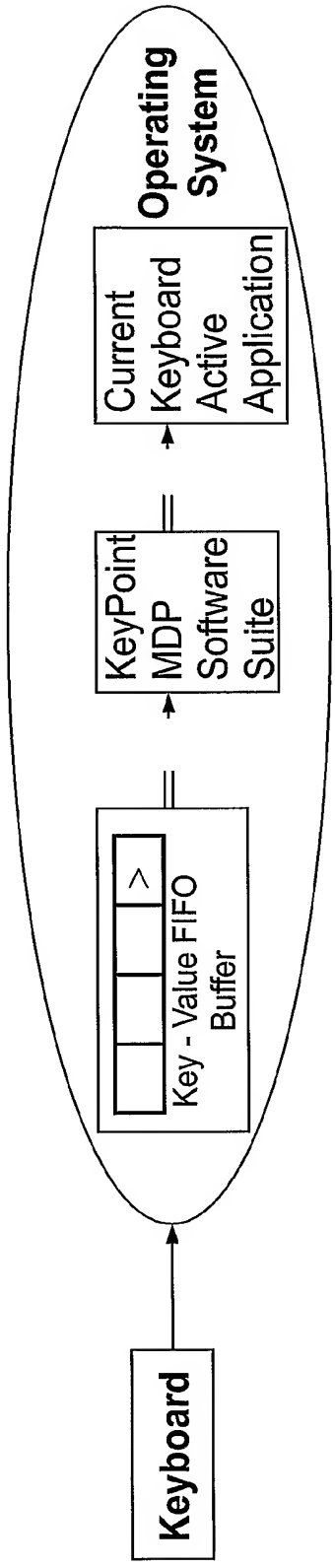
SHIFT														SHIFT
H	er	e	'	s	SPC	an	o	th	er	SPC	qu	er	y	/ ?

Order of Key - Press Events for Typing Sequence "Here's another query?"

Fig. 10



Conversion / Mapping of Key - Press Events to Buffered FIFO Transmission



Piped Dual Channel Mode for Key-Value FIFO Buffer

Fig. 10 Cont.

QWERTY	DVORAK DUAL	DVORAK LEFT	DVORAK RIGHT	MALTRON
OF .tv	OF .tv	OF .tv	OF .tv	OF .tv
ED .ac.	ED .ac.	ED .ac.	ED .ac.	ED .ac.
ON .net	ON .net	ON .net	ON .net	ON .net
EN .edu	EN .edu	EN .edu	EN .edu	EN .edu
ES .gov	ES .gov	ES .gov	ES .gov	ES .gov
RE .mil	RE .mil	RE .mil	RE .mil	RE .mil
TH www.	TH www.	TH www.	TH www.	TH www.
AT .co.	AT .co.	AT .co.	AT .co.	AT .co.
OR .info	OR .info	OR .info	OR .info	OR .info
AN .com	AN .com	AN .com	AN .com	AN .com
IN .org	IN .org	IN .org	IN .org	IN .org
ER .ccode	ER .ccode	ER .ccode	ER .ccode	ER .ccode
SPC T .biz	SPC T .biz	SPC T .biz	SPC T .biz	SPC T .biz
E SPC .pro	E SPC .pro	E SPC .pro	E SPC .pro	E SPC .pro
QU q	@	; :	5 %	QU Q
W	, <	QU Q	6 ^	P
E	. >	B	QU Q	Y
R	P	Y	. >	C
T	Y	U	O	B
Y	F	R	R	V
U	G	S	S	M
I	C	O	U	U
O	R	. >	Y	Z
P	L	6 ^	B	L
A	A	-	7 &	A

Fig. 11

QWERTY	DVORAK DUAL	DVORAK LEFT	DVORAK RIGHT	MALTRON
S	O	K	8 *	N
D	E	C	Z	I
F	U	D	A	S
G	I	T	E	F
H	D	H	H	" "
J	H	E	T	D
K	T	A	D	T
L	N	Z	C	H
Z	: ;	@	9 (	,
X	Q U Q	X	0)	?
C	J	G	X	J
V	K	V	. v	G
B	X	W	I	E
N	B	N	N	L '
M	M	I	W	W
, '	, '	, '	, '	, '
1 !	1 !	[{	1 !	1 +
2	2	] }	2	2 ^
3 £	3 £	/ ?	3 £	3 £
4 $	4 $	P	4 $	4 $
5 %	5 %	F	J	5 (
6 ^	6 ^	M	L	6)
7 &	7 &	L	M	7 &
8 *	8 *	J	F	8 @
9 (	9 (	4 $	P	9 %

Fig. 11 Cont.

QWERTY	DVORAK DUAL	DVORAK LEFT	DVORAK RIGHT	MALTRON
0)	0)	3 £	/ ?	0 =
-	[{	2	[{	{ <
= +	] }	1 !	] }	} >
TAB	TAB	TAB	TAB	TAB
[{	/ ?	5 %	; :	ESC
] }	= +	= +	= +	[*
; :	S	8 *	K	O
@	- _	7 &	- _	R
# ~	# ~	# ~	# ~	; :
, <	W	, <	V	K
. >	V	0)	G	-
/ ?	Z	9 (	@	X
\ |	\ |	\ |	\ |	\ |

Fig. 11 Cont.

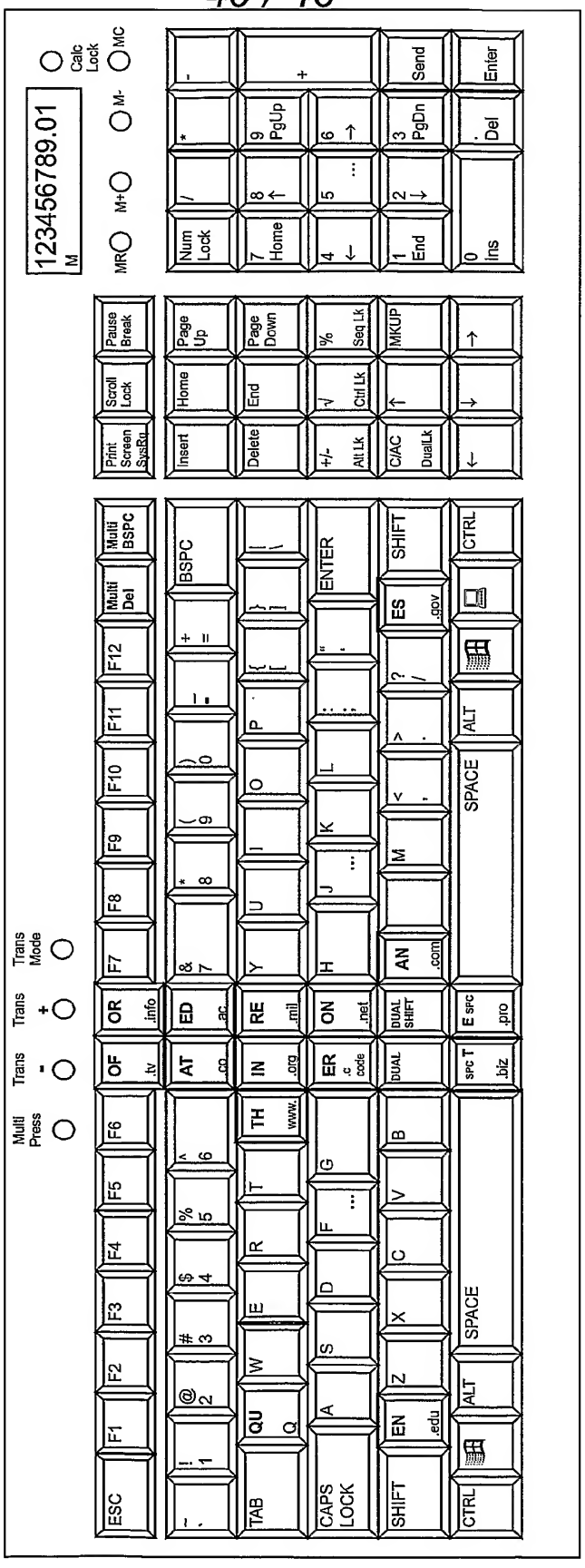

Multi Press
Trans
Trans
Trans Mode
123456789.01
M
MR
M+
M-
MC
Calc Lock
ESC
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Multi Del
Multi BSPC
Print Screen SysRq
Scroll Lock
Pause Break
Insert
Home
Page Up
Delete
End
Page Down
Num Lock
7 Home
8
9 PgUp
4
5
6
1 End
2
3 PgDn
0 Ins
. Del
Send
Enter
TAB
QU
W
E
R
T
TH
Y
U
I
O
P
BSPC
CAPS LOCK
A
S
D
F
G
H
J
K
L
ENTER
SHIFT
EN
Z
X
C
V
B
AN
M
SHIFT
ES
CTRL
ALT
SPACE
ALT
CTRL
OR
ED
RE
IN
ER
ON
DUAL SHIFT
DUAL
SPC T
E SPC
Page Up
Page Down
Ctrl Lk
Seq Lk
MKUP
Alt Lk
C/AC
DualLk
+/-
%

Fig. 12a

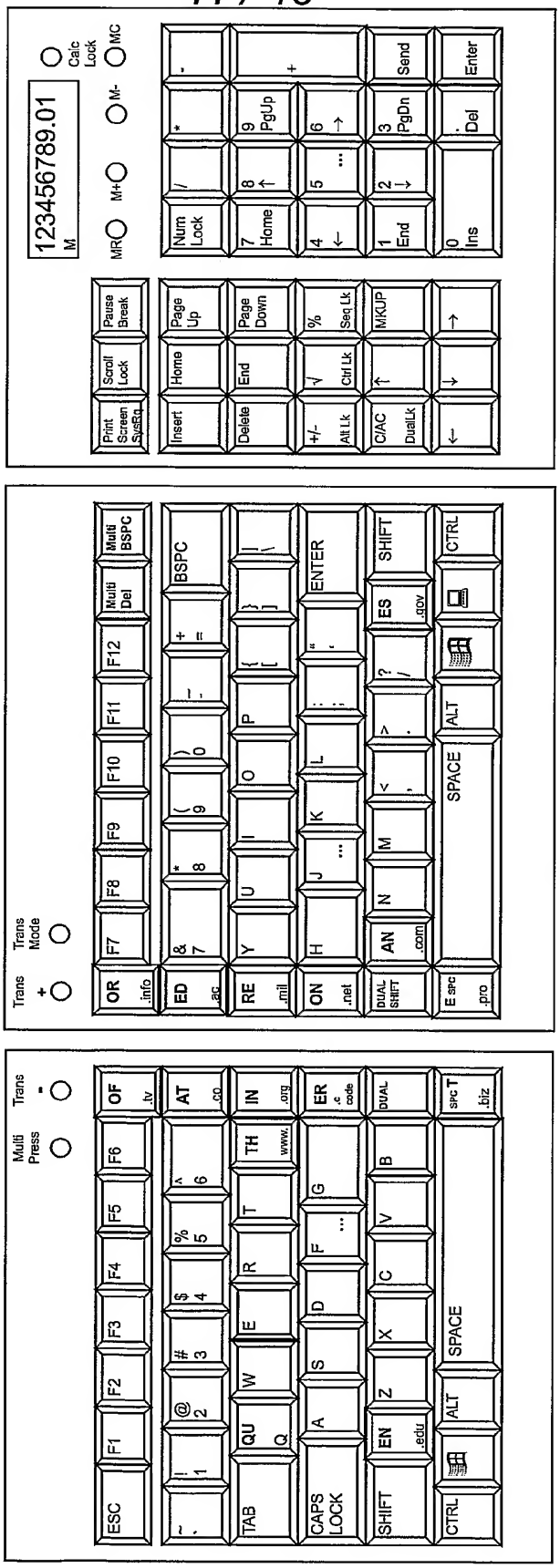

Multi Press
Trans
Trans Mode
123456789.01
M
MR
M+
M-
MC
Calc Lock
ESC
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Multi Del
Multi BSPC
Print Screen SysRq
Scroll Lock
Pause Break
Insert
Home
Page Up
Delete
End
Page Down
Num Lock
CAPS LOCK
TAB
SHIFT
CTRL
ALT
SPACE
BSPC
ENTER
Seq Lk
MKUP
Ctrl Lk
Alt Lk
Send
Enter
PgUp
PgDn

Fig. 12b

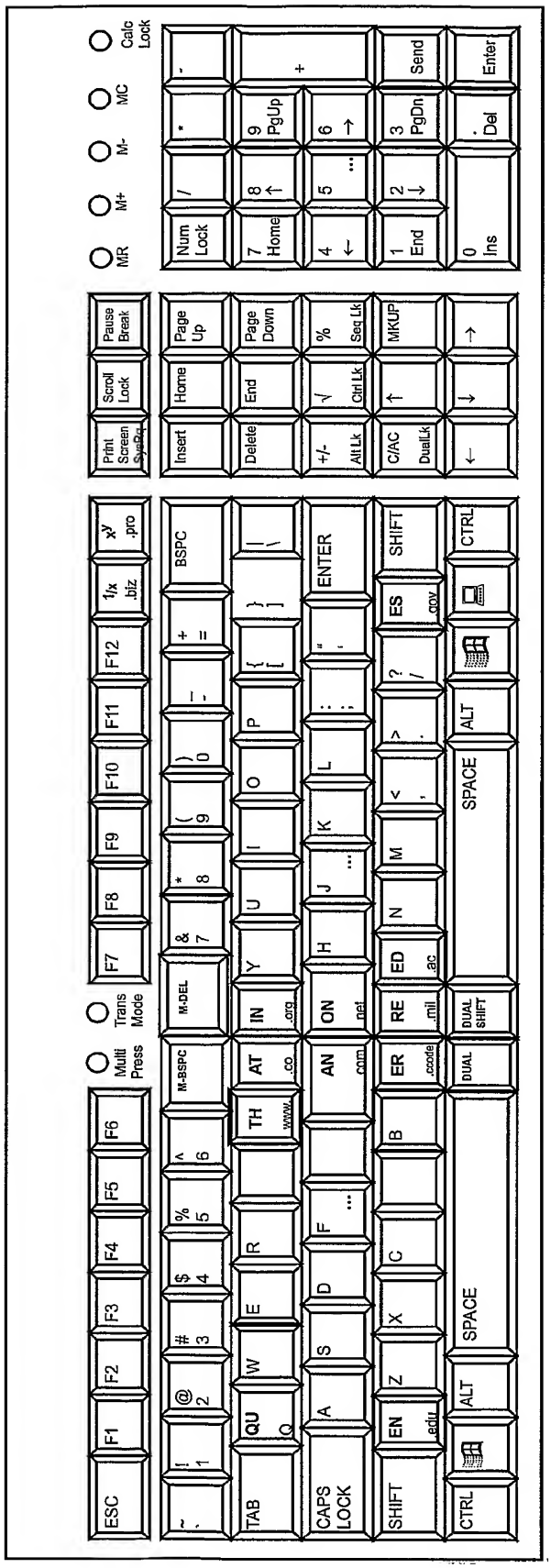

ESC
F1
F2
F3
F4
F5
F6
Multi Press
Trans Mode
F7
F8
F9
F10
F11
F12
BSPC
TAB
CAPS LOCK
SHIFT
CTRL
ALT
SPACE
ENTER
Print Screen SysRq
Scroll Lock
Pause Break
Insert
Home
Page Up
Delete
End
Page Down
Num Lock
MR
M+
M-
MC
Calc Lock
Send
Enter

Fig. 12c

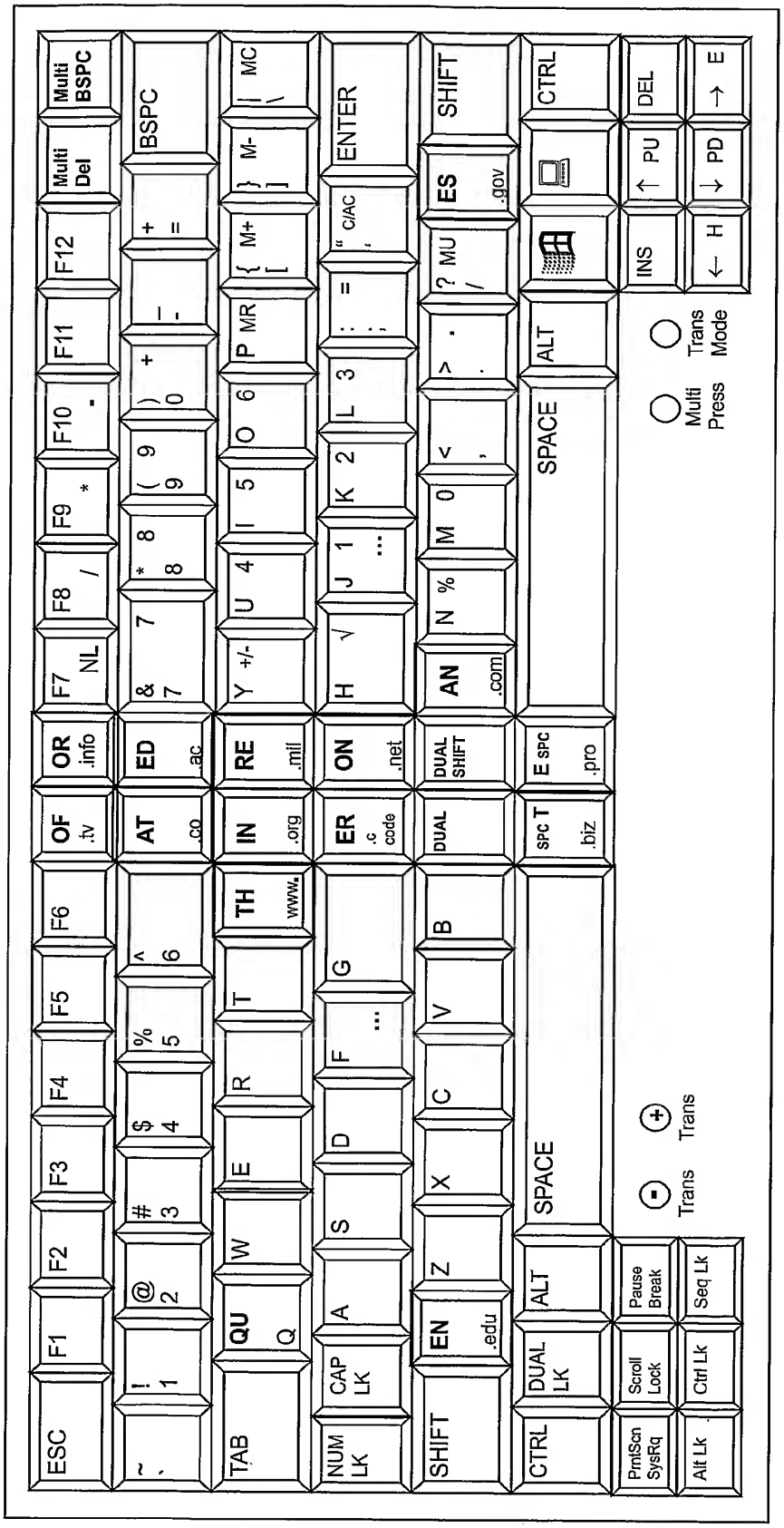

ESC
F1
F2
F3
F4
F5
F6
F7 NL
F8 /
F9 *
F10 -
F11
F12
Multi Del
Multi BSPC
TAB
QU
Q
W
E
R
T
TH
www.
IN
.org
ER
.c
code
ON
.net
DUAL SHIFT
AN
.com
N %
M 0
< ,
> .
? MU
/
ES
.gov
SHIFT
BSPC
CAP LK
A
S
D
F
G
H √
J 1
K 2
L 3
: =
; "
C/AC
ENTER
SHIFT
EN
.edu
Z
X
C
V
B
DUAL
spc T
.biz
E spc
.pro
SPACE
ALT
CTRL
DUAL LK
PmtScn SysRq
Scroll Lock
Pause Break
Alt Lk
Ctrl Lk
Seq Lk
Trans
Trans
Multi Press
Trans Mode
INS
DEL
PU
PD
H
E

Fig. 12d

Next	generation	of	adaptive	intelligence	interfaces
Nextel	day	delivery	forward	thinking	meeting
	time	will be	meet	proposal	dinner
	step	statistics	for	10:10am	morning
	level	we	the	way	for

Fig. 13

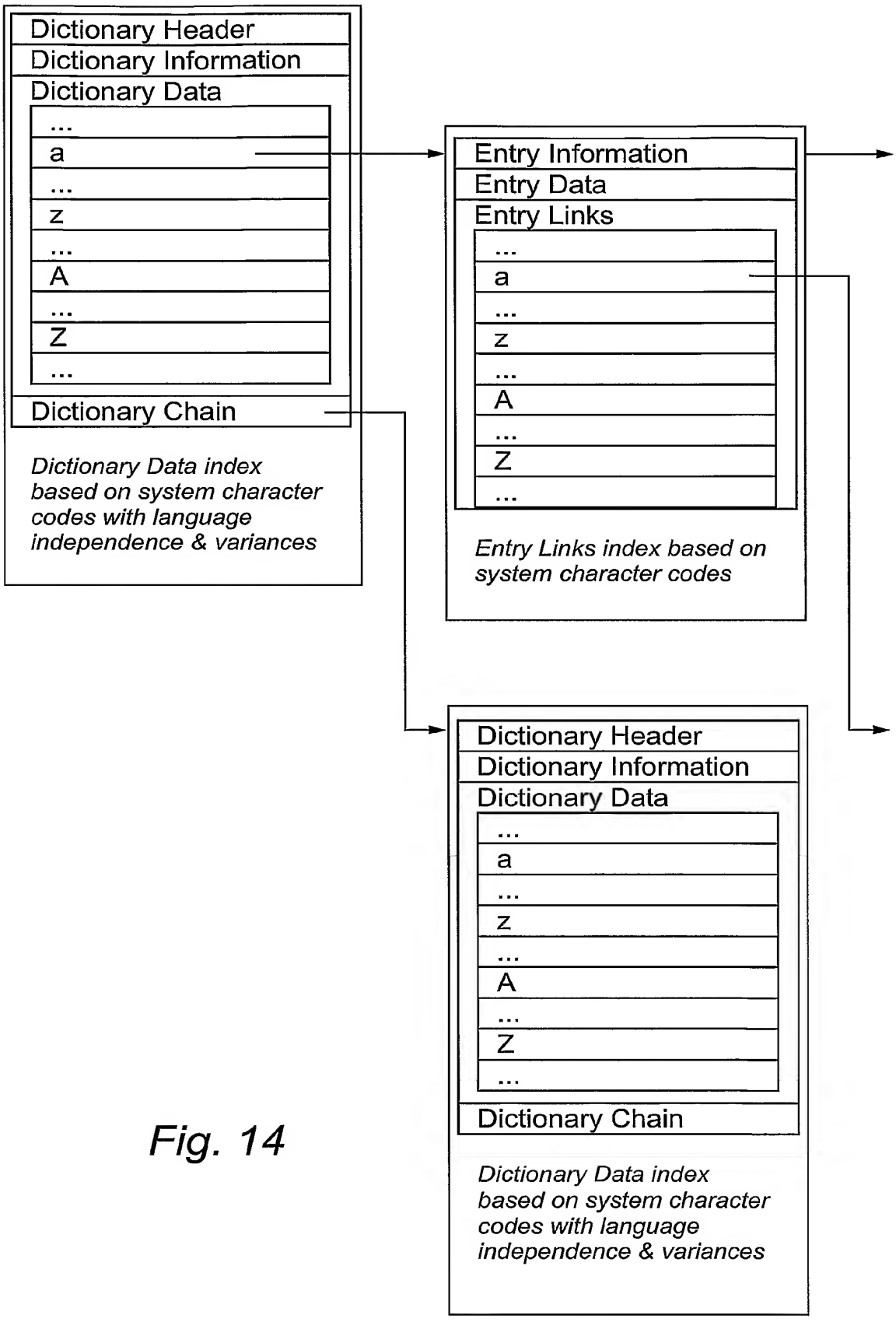

Dictionary Header
Dictionary Information
Dictionary Data
...
a
...
z
...
A
...
Z
...
Dictionary Chain
Dictionary Data index based on system character codes with language independence & variances
Entry Information
Entry Data
Entry Links
...
a
...
z
...
A
...
Z
...
Entry Links index based on system character codes
Dictionary Header
Dictionary Information
Dictionary Data
...
a
...
z
...
A
...
Z
...
Dictionary Chain
Dictionary Data index based on system character codes with language independence & variances

Fig. 14

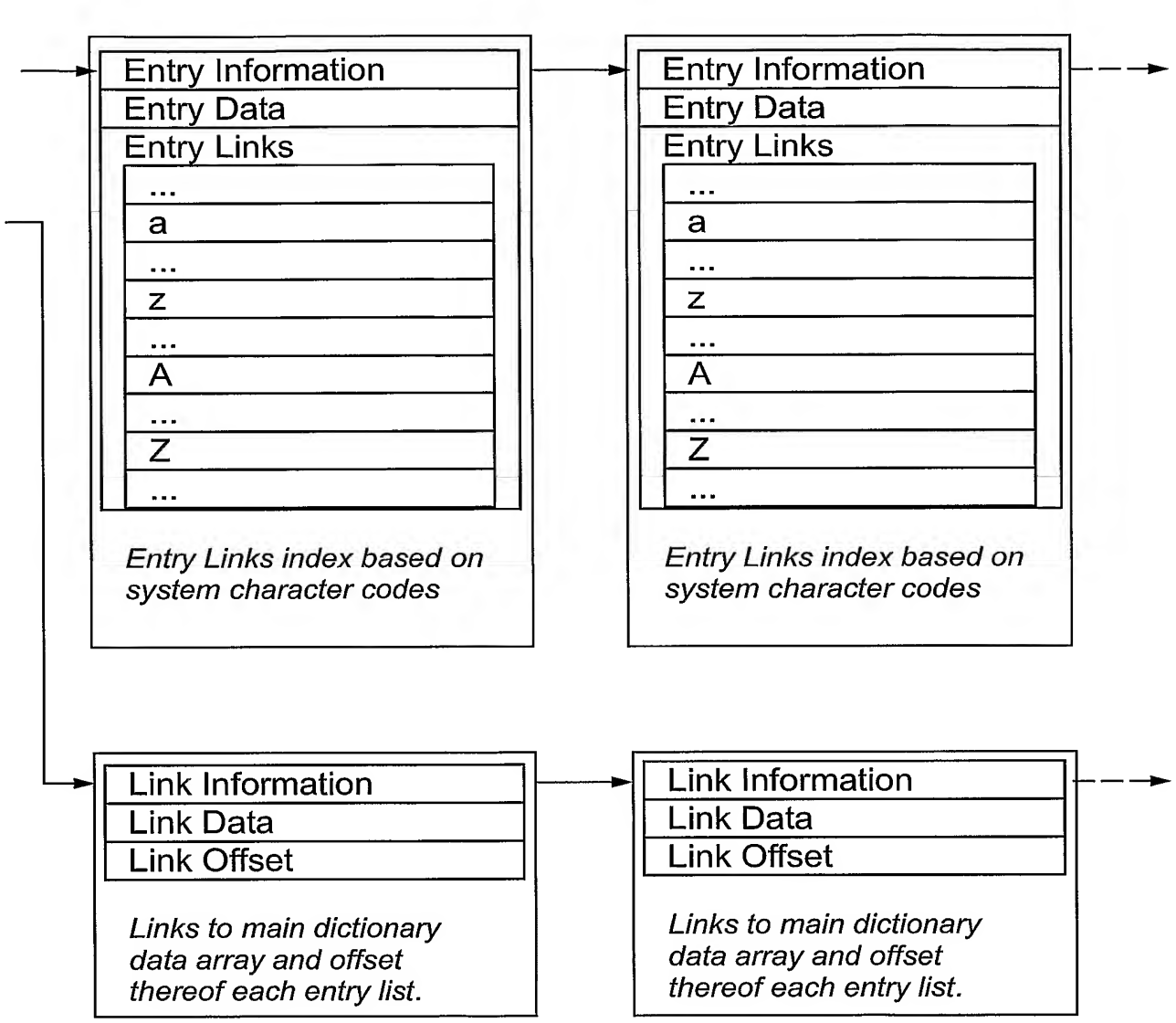

Entry Information
Entry Data
Entry Links
...
a
...
z
...
A
...
Z
...
Entry Links index based on system character codes
Entry Information
Entry Data
Entry Links
...
a
...
z
...
A
...
Z
...
Entry Links index based on system character codes
Link Information
Link Data
Link Offset
Links to main dictionary data array and offset thereof each entry list.
Link Information
Link Data
Link Offset
Links to main dictionary data array and offset thereof each entry list.

Fig. 14 Cont.